

I claim:

1. A method of peripheralizing CD34<sup>+</sup> cells comprising the steps of blocking VLA-4 antigen on the surface of the CD34<sup>+</sup> cells.
2. The method according to claim 1, wherein the blocking is mediated by a blocking agent selected from the group consisting of anti-VLA-4 antibody which may optionally be human, chimeric or humanized, Fab, Fab', F(ab')<sub>2</sub> or F(v) fragments thereof, fibronectin, fibronectin having an alternatively spliced non-type III connecting segment, fibronectin peptides containing the amino acid sequence EILDV or a similar conservatively substituted amino acid sequence, soluble VCAM-1 and VCAM-1 peptides.
3. The method according to claim 1, wherein at least a portion of the CD34<sup>+</sup> cells are hematopoietic stem cells.
4. The method of claim 1, further comprising the step of stimulating the CD34<sup>+</sup> cells to proliferate in vivo.
5. The method according to claim 2, further comprising the step of stimulating the CD34<sup>+</sup> cells to proliferate in vivo.

6. The method according to claim 3, further comprising the step of stimulating the hematopoetic stem cells to proliferate in vivo.
7. The method according to claim 4, wherein the stimulation is mediated by a cytokine selected from the group consisting of G-CSF, stem cell factor, GM-CSF, M-CSF, IL-1, IL-2, IL-3, IL-4, IL-6 and IL-11.
8. The method according to claim 5, wherein the stimulation is mediated by a cytokine selected from the group consisting of G-CSF, stem cell factor, GM-CSF, M-CSF, IL-1, IL-2, IL-3, IL-4, IL-6 and IL-11.
9. The method according to claim 6, wherein the stimulation is mediated by a cytokine selected from the group consisting of G-CSF, stem cell factor, GM-CSF, M-CSF, IL-1, IL-2, IL-3, IL-4, IL-6 or IL-11.
10. The method according to claim 7, wherein the cytokine is G-CSF.
11. The method according to claim 8, wherein the cytokine is G-CSF.
12. The method according to claim 9, wherein the cytokine is G-CSF.

13. The method according to claim 10, wherein the cytokine is administered before blocking VLA-4 antigen on the surface of the CD34<sup>+</sup> cells.
14. The method according to claim 11, wherein the cytokine is administered before the blocking agents.